



DC COMPONENTS CO., LTD.

INTEGRATED CIRCUIT

DE7809
DE7809A

TECHNICAL SPECIFICATIONS OF 3-TERMINAL POSITIVE VOLTAGE REGULATOR

Description

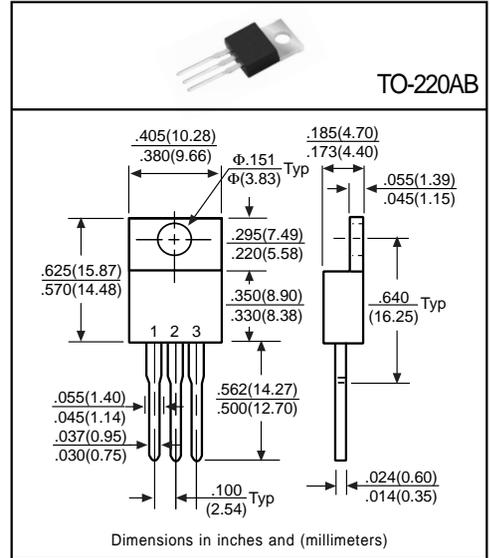
These regulators employ internal current limiting and thermal shutdown, making them essentially indestructible. They can deliver over 1A output current with adequate heatsinking. They are intended as fixed voltage regulators in a wide range of applications including local, on-card regulation for elimination of noise and distribution problems associated with single-point regulation.

Pinning

- 1 = Input
- 2 = Ground
- 3 = Output

Absolute Maximum Ratings (TA=25°C)

| Characteristic | Symbol | Rating | Unit |
|-------------------------------------|--------|----------------|------|
| Input Voltage | Vi | 35 | V |
| Total Power Dissipation | Pd | Internal limit | W |
| Operating Temperature Range | Topr | 0 to +125 | °C |
| Maximum Junction Temperature | TJ | 125 | °C |
| Storage Temperature Range | TSTG | -55 to +150 | °C |
| Lead Temperature(Soldering 10 Sec.) | TL | 230 | °C |



Electrical Characteristics

(Vin=15V, Iout=500mA, 0°C ≤ TJ ≤ 125°C, unless otherwise specified)

| Characteristic | | Symbol | Min | Typ | Max | Unit | Test Conditions |
|---------------------------|---------|----------|------|------|------------|---------|---|
| Output Voltage | DE7809A | Vo | 8.23 | 9.00 | 9.27 | V | TJ=25°C Pd ≤ 15W, 5mA ≤ Io ≤ 1A |
| | DE7809 | | 8.64 | 9.00 | 9.36 | | |
| | DE7809A | | 8.73 | 9.00 | 9.27 | | |
| | DE7809 | | 8.55 | 9.00 | 9.45 | | |
| Line Regulation | DE7809A | Regline | - | 6.0 | 90 | mV | TJ=25°C, 11.5V ≤ Vin ≤ 25V TJ=25°C, 12V ≤ Vin ≤ 25V |
| | DE7809 | | - | 4.0 | 100 | | |
| | DE7809A | | - | 2.0 | 45 | | |
| | DE7809 | | - | 2.0 | 50 | | |
| Load Regulation | DE7809A | Regload | - | - | 100 | mV | TJ=25°C, 5mA ≤ Io ≤ 1.5A TJ=25°C, 250mA ≤ Io ≤ 750mA |
| | DE7809 | | - | - | 180 | | |
| | DE7809A | | - | - | 50 | | |
| | DE7809 | | - | - | 90 | | |
| Input Bias Current | | Iib | - | 5.5 | 8.0 | mA | TJ=25°C, Io ≤ 1A |
| Input Bias Current Change | | ΔIib | - | - | 0.5 1.3 | mA | 5mA ≤ Io ≤ 1A 11.5V ≤ Vin ≤ 26V |
| Output Noise Voltage | DE7809A | Vn | - | - | 200 | μV | TA=25°C, 10Hz ≤ f ≤ 100KHz |
| | DE7809 | | - | - | 300 | | |
| Ripple Rejection | DE7809A | RR | - | 68 | - | dB | 13V ≤ Vin ≤ 23V, f=120Hz |
| | DE7809 | | 62 | 73 | - | | |
| Dropout Voltage | DE7809A | Vd | - | 2.0 | - | V | TJ=25°C, Io=1A |
| | DE7809 | | - | 2.5 | - | | |
| Short Circuit Current | | Isc | - | 1.5 | - | A | TJ=25°C |
| Peak Output Current | | Imax | 1.7 | - | - | A | TJ=25°C |
| Average Tc of Vout | | ΔVo / ΔT | - | -0.8 | - | mV / °C | 0°C ≤ TJ ≤ +125°C, Io=5mA |